

1 1. A method of encrypting an unencrypted television program, comprising:
2 sampling the unencrypted television program at a specified time interval;
3 for each sample:
4 encrypting the sample according to a first encryption method to create
5 a first encrypted sample; and
6 encrypting the sample according to a second encryption method to
7 create a second encrypted sample.

8

9 2. The method according to claim 1, further comprising, combining the first and
10 second encrypted samples with unsampled portions of the unencrypted television
11 program to produce partially dual encrypted television programs.

12

13 3. The method according to claim 2, further comprising distributing the partially
14 dual encrypted television program over a communication medium.

15

16 4. The method according to claim 2, further comprising assigning a of plurality
17 primary packet identifiers (PID) to data packets containing unencrypted portions of
18 the television program, the primary packet identifiers associating the unencrypted
19 portion with the television program.

20

21 5. The method according to claim 2, further comprising assigning a plurality of
22 primary packet identifiers (PID) to data packets containing first encrypted samples
23 of the television program, the primary packet identifiers associating the first
24 encrypted samples with the television program.

25

26 6. The method according to claim 2, further comprising assigning a plurality of
27 secondary packet identifiers (PID) to data packets containing second encrypted
28 samples of the television program, the secondary packet identifiers associating the
29 second encrypted samples with the television program.

30

1 7. The method according to claim 2, further comprising:
2 assigning a plurality of primary packet identifiers (PID) to data packets
3 containing unencrypted portions of the television program, the primary packet
4 identifiers associating the unencrypted portions with the television program;
5 assigning the plurality of primary packet identifiers to data packets containing
6 first encrypted samples of the television program, the primary packet identifiers
7 associating the first encrypted samples with the television program; and
8 assigning a plurality of secondary packet identifiers to data packets
9 containing second encrypted samples of the television program, the secondary
10 packet identifiers associating the second encrypted samples with the television
11 program.

12

13 8. The method according to claim 7, further comprising transmitting system
14 information to identify the primary and secondary PID associated with the television
15 program.

16

17 9. The method according to claim 1, wherein the sample comprises a data
18 associated with a frame of video.

19

20 10. The method according to claim 1, wherein the sample comprises at least one
21 packet of data.

22

23 11. The method according to claim 1, wherein the specified time interval
24 comprises a randomly occurring time interval.

25

26 12. The method according to claim 1, further comprising distributing at least one
27 of the first and second encrypted samples separately from unsampled portions of the
28 unencrypted television program.

29

1 13. An electronic storage medium storing instructions which, when executed on
2 a programmed processor, carry out the method according to claim 1.

3

4 14. An electronic transmission medium carrying an encrypted television signal
5 encrypted by the method according to claim 1.

1 15. An encrypted television signal, comprising:
2 a first encrypted sample of the television signal, the first encrypted sample
3 comprising a first sample encrypted under a first encryption method;
4 a second encrypted sample of the television signal, the second encrypted
5 sample comprising the first sample encrypted under a second encryption method;
6 and
7 an unencrypted portion.
8

9 16. The encrypted television signal according to claim 13, wherein the television
10 signal comprises a digital television signal, and wherein the first encrypted samples
11 and second encrypted samples comprise first encrypted packets and second
12 encrypted packets, and the unencrypted portion comprises unencrypted packets.
13

14 17. The encrypted television signal according to claim 16, wherein the digital
15 television signal complies with an MPEG standard, and wherein the first encrypted
16 packets are identified by a first packet identifier, and wherein the second encrypted
17 packets are identified by a second packet identifier.
18

19 18. The encrypted television signal according to claim 14, wherein the digital
20 television signal complies with an MPEG standard, and wherein the unencrypted
21 packets are identified by a first packet identifier, and wherein the first encrypted
22 packets are identified by the first packet identifier, and wherein the second
23 encrypted packets are identified by a second packet identifier.
24

1 19. A method of encrypting an unencrypted television program, comprising:
2 sampling the unencrypted television program at a specified time interval; and
3 for each sample, encrypting the sample according to a first encryption method
4 to create a first encrypted sample for the television program.

5

6 20. The method according to claim 19, further comprising, combining the first
7 encrypted samples with the unsampled portions of the unencrypted television
8 program to produce a partially encrypted television program.

9

10 21. The method according to claim 20, further comprising distributing the partially
11 encrypted television program over a cable television system.

12

13 22. The method according to claim 20, further comprising assigning a packet
14 identifier (PID) to data packets containing unencrypted portions of the television
15 program, the packet identifier associating the unencrypted portion with a particular
16 television program.

17

18 23. The method according to claim 20, further comprising assigning a packet
19 identifier (PID) to data packets containing first encrypted samples of the television
20 program, the packet identifier associating the first encrypted samples with a
21 particular television program.

22

23 24. The method according to claim 20, further comprising assigning a secondary
24 packet identifier (PID) to data packets containing first encrypted sample of the
25 television program, the secondary packet identifier associating the first encrypted
26 samples with a particular television program.

27

28

1 25. The method according to claim 20, further comprising assigning a packet
2 identifier (PID) to data packets containing first encrypted samples and unencrypted
3 portions of the television program, the packet identifier associating the first
4 encrypted samples and the unencrypted portions with a particular television
5 program.

6
7 26. The method according to claim 20, further comprising
8 assigning a primary packet identifier (PID) to data packets containing
9 unencrypted portions of the television program, the packet identifier associating the
10 unencrypted portions with a particular television program; and
11 assigning a secondary packet identifier (PID) to data packets containing
12 encrypted samples of the television program, the secondary packet identifier
13 associating the encrypted samples with the particular television program

14
15 27. The method according to claim 20, wherein the sample comprises a data
16 associated with a frame of video.

17
18 28. The method according to claim 19, wherein the sample comprises at least one
19 packet of data.

20
21 29. An electronic storage medium storing instructions which, when executed on
22 a programmed processor, carry out the method according to claim 19.

23
24 30. An electronic transmission medium carrying an encrypted television program
25 encrypted by the method according to claim 19.

1 31. A method of encrypting an unencrypted television program, comprising:
2 encrypting N periods out of every M periods of the television program
3 according to a first encryption method, where M is greater than N; and
4 encrypting the N periods of the television program according to a second
5 encryption method.

6
7 32. The method according to claim 31, further comprising, combining the first and
8 second encrypted periods with unencrypted periods to produce a partially dual
9 encrypted television program.

10
11 33. The method according to claim 32, further comprising distributing the partially
12 dual encrypted television program over a cable television system.

13
14 34. The method according to claim 32, further comprising assigning a primary
15 packet identifier (PID) to unencrypted periods of the television program.

16
17 35. The method according to claim 32, further comprising assigning a primary
18 packet identifier (PID) to periods encrypted under the first encryption method.

19
20 36. The method according to claim 32, further comprising assigning a secondary
21 packet identifier (PID) to periods encrypted under the second encryption method.

22
23 37. The method according to claim 32, further comprising:
24 assigning a primary packet identifier (PID) to unencrypted periods of the
25 television program;
26 assigning a primary packet identifier (PID) to periods encrypted under the first
27 encryption method; and
28 assigning a secondary packet identifier (PID) to periods encrypted under the
29 second encryption method.

1 38. The method according to claim 37, further comprising transmitting system
2 information to identify the primary and secondary PID associated with the television
3 program.

4
5 39. The method according to claim 32, wherein the period comprises data
6 associated with a frame of video.

7
8 40. The method according to claim 32, wherein the period comprises at least one
9 packet of data.

10
11 41. The method according to claim 31, wherein the N periods and M periods are
12 selected randomly.

13
14 42. An electronic storage medium storing instructions which, when executed on
15 a programmed processor, carry out the method according to claim 32.

16
17 43. An electronic transmission medium carrying an encrypted television program
18 encrypted by the method according to claim 32.

1 44. A partially encrypted television signal, comprising:
2 a first portion of the television signal, the portion being encrypted under a first
3 encryption method and under a second encryption method; and
4 an unencrypted portion, wherein for every M periods of the television signal,
5 N periods are encrypted.

6
7 45. The partially encrypted television signal according to claim 44, wherein the
8 television signal is a digital television signal, and wherein the period comprises a
9 packet.

10
11 46. The partially encrypted television signal according to claim 44, wherein the
12 period comprises a video frame.

13
14 47. The partially encrypted television signal according to claim 44, wherein the
15 digital television signal complies with an MPEG standard, and wherein the first
16 encrypted portion is identified by a first packet identifier, and wherein the second
17 encrypted portion is identified by a second packet identifier.

18
19 48. The partially encrypted television signal according to claim 44, wherein the
20 digital television signal complies with an MPEG standard, and wherein the
21 unencrypted portion is identified by a first packet identifier, and wherein the
22 encrypted portion encrypted under the first encryption method is identified by the
23 first packet identifier, and wherein the encrypted portion encrypted under the second
24 encryption method is identified by a second packet identifier.

1 49. A method of encrypting an unencrypted television program, comprising:
2 encrypting N portions of the television program out of every M portions of the
3 television program according to a first encryption method; and
4 leaving a remainder of the television program unencrypted, wherein the
5 combination of the encrypted portion and the remainder comprises a partially
6 encrypted television program.

7
8 50. The method according to claim 49, further comprising distributing the partially
9 encrypted television program over one of the following: a terrestrial broadcast
10 system, a cable television system and a satellite television system.

11
12 51. The method according to claim 49, further comprising assigning a packet
13 identifier (PID) to data packets containing the encrypted portions and the remainder
14 of the television program, the packet identifier associating the encrypted portion and
15 the remainder with the television program.

16
17 52. The method according to claim 49, further comprising assigning a primary
18 packet identifier (PID) to data packets containing the encrypted portions and the
19 remainder of the television program, the packet identifier associating the encrypted
20 portion and the remainder with the television program; and assigning a secondary
21 packet identifier (PID) to data packets containing the encrypted portions of each
22 television program, the secondary packet identifier associating the first encrypted
23 samples with the television program.

24
25 53. The method according to claim 49, wherein the N portions comprise N frames
26 of video.

27
28 54. An electronic storage medium storing instructions which, when executed on
29 a programmed processor, carry out the method according to claim 49.

1 55. An electronic transmission medium carrying an encrypted television program
2 encrypted by the method according to claim 49.
3
4
5

1 56. A method of processing a television signal, comprising:
2 receiving a television signal comprising:
3 a first encrypted sample of the television program, the sample being
4 encrypted under a first encryption method,
5 a second encrypted sample of the television program, the sample
6 being encrypted under a second encryption method, and
7 an unencrypted portion; and
8 decrypting the first encrypted sample to produce a decrypted sample.
9

10 57. The method according to claim 56, further comprising decoding the
11 unencrypted portion and the decrypted sample.
12

13 58. The method according to claim 56, wherein the television signal is a digital
14 television signal, and wherein the first encrypted samples and second encrypted
15 samples comprise first encrypted packets and second encrypted packets, and the
16 unencrypted portion comprises unencrypted packets.
17

18 59. The method according to claim 58, wherein the digital television signal
19 complies with an MPEG standard, and wherein the first encrypted packets are
20 identified by a first packet identifier, and wherein the second encrypted packets are
21 identified by a second packet identifier.
22

23 60. The method according to claim 59, wherein the digital television signal
24 complies with an MPEG standard, and wherein the unencrypted packets are
25 identified by a first packet identifier, and wherein the first encrypted packets are
26 identified by the first packet identifier, and wherein the second encrypted packets
27 are identified by a second packet identifier.
28

1 61. The method according to claim 56, carried out in a television device.

2

3 62. The method according to claim 56, carried out in a television set-top box.

4

5 63. The method according to claim 56, carried out in an integrated circuit.

6

7 64. The method according to claim 56, carried out in one of an application

8 specific integrated circuit and a field programmable gate array.

9

1 65. A method of processing digital content, comprising:
2 receiving a signal containing the digital content, the digital content
3 comprising:
4 a first encrypted sample the digital content, the sample being
5 encrypted under a first encryption method,
6 a second encrypted sample of the digital content, the sample being
7 encrypted under a second encryption method, and
8 an unencrypted portion; and
9 decrypting the first encrypted sample to produce a decrypted sample.

10
11 66. The method according to claim 65, further comprising decoding the
12 unencrypted portion and the decrypted sample.

13
14 67. The method according to claim 65, carried out in an integrated circuit.

15
16 68. The method according to claim 65, carried out in one of a television device,
17 a content player, a PDA and a music player.

1 69. A method of decoding a television program, comprising:
2 receiving a television signal having N periods out of every M periods of the
3 television program encrypted according to a first encryption method, where M is
4 greater than N, and wherein the same N periods of the television program encrypted
5 according to a second encryption method, wherein M-N periods are unencrypted;
6 decrypting the N periods according to a first decryption method to produce
7 decrypted periods;
8 discarding the N periods encrypted according to the second encryption
9 method; and
10 decoding the decrypted periods and the unencrypted periods.

11
12 70. The method according to claim 69, further comprising filtering out the N
13 periods encrypted according to the second encryption method.

14
15 71. The method according to claim 70, wherein the filtering is carried out by
16 filtering on a packet identifier (PID) associated with data packets.

17
18 72. The method according to claim 69, wherein the period comprises data
19 associated with a frame of video.

20
21 73. The method according to claim 69, wherein the period comprises at least one
22 packet of data.

23
24 74. The method according to claim 69, wherein the period comprises data
25 associated with a frame of audio.

26
27 75. An electronic storage medium storing instructions which, when executed on
28 a programmed processor, carry out the method according to claim 69.

29 76. The method according to claim 69, carried out in a television device.

1 77. The method according to claim 69, carried out in a television set-top box.

2

3 78. The method according to claim 69, carried out in an integrated circuit.

4

5 79. The method according to claim 69, carried out in one of an application

6 specific integrated circuit and a field programmable gate array.

7

8

1 80. A television set-top box for decoding a television signal, comprising:
2 a receiver that receives a television signal having:
3 a first encrypted sample of the television program, the sample being
4 encrypted under a first encryption method,
5 a second encrypted sample of the television program, the sample
6 being encrypted under a second encryption method, and
7 an unencrypted portion;
8 a decrypter that decrypts the first encrypted sample to produce a decrypted
9 sample; and
10 a decoder that decodes the unencrypted portion and the decrypted sample.

11
12 81. The apparatus according to claim 80, wherein the television signal is a digital
13 television signal, and wherein the first encrypted samples and second encrypted
14 samples comprise first encrypted packets and second encrypted packets, and the
15 unencrypted portion comprises unencrypted packets.

16
17 82. The apparatus according to claim 81, wherein the digital television signal
18 complies with an MPEG standard, and wherein the first encrypted packets are
19 identified by a first packet identifier, and wherein the second encrypted packets are
20 identified by a second packet identifier.

21
22 83. The apparatus according to claim 81, wherein the digital television signal
23 complies with an MPEG standard, and wherein the unencrypted packets are
24 identified by a first packet identifier, and wherein the first encrypted packets are
25 identified by the first packet identifier, and wherein the second encrypted packets
26 are identified by a second packet identifier.

1 84. A television set-top box for decoding a television program, comprising:
2 a receiver receiving a television program having N periods out of every M
3 periods of the television program encrypted according to a first encryption method,
4 where M is greater than N, and wherein the same N periods of the television
5 program encrypted according to a second encryption method, wherein M-N periods
6 are unencrypted;
7 a decrypter that decrypts the N periods according to a first decryption method
8 to produce decrypted periods;
9 filtering means for discarding the N periods encrypted according to the
10 second encryption method; and
11 a decoder that decodes the decrypted periods and the unencrypted periods.
12
13
14
15
16
17
18
19

20 85. The method according to claim 84, further comprising filtering out the N
21 periods encrypted according to the second encryption method.
22

23 86. The method according to claim 85, wherein the filtering is carried out by
24 filtering on a packet identifier (PID) associated with data packets.
25

26 87. The method according to claim 84, wherein the period comprises data
27 associated with a frame of video.
28

29 88. The method according to claim 84, wherein the period comprises at least one
30 packet of data.
31

32 89. An electronic storage medium storing instructions which, when executed on
33 a programmed processor, carry out the method according to claim 84.
34

1 90. A method of encrypting a plurality of unencrypted television programs,
2 comprising:

3 selecting a video frame from each unencrypted television program at a
4 specified time interval;

5 encrypting the frame according to a first encryption method to create a first
6 encrypted frame for each television program; and

7 encrypting the frame according to a second encryption method to create a
8 second encrypted frame for each television program.

9
10 91. The method according to claim 90, further comprising, combining the first and
11 second encrypted frames with unencrypted frames of the unencrypted television
12 programs to produce partially dual encrypted television programs.

13
14 92. The method according to claim 91, further comprising distributing the partially
15 dual encrypted television programs over one of a cable television system, a
16 terrestrial broadcast system, and a satellite system.

17
18 93. The method according to claim 91, further comprising assigning a plurality
19 primary packet identifiers (PID) to data packets containing unencrypted portions of
20 each television program, the primary packet identifiers associating the unencrypted
21 portions with each particular television program.

22
23 94. The method according to claim 91, further comprising assigning a plurality
24 primary packet identifiers (PID) to data packets containing first encrypted frames of
25 each television program, the primary packet identifiers associating the first
26 encrypted frames with each particular television program.

1 95. The method according to claim 91, further comprising assigning a plurality of
2 secondary packet identifiers (PID) to data packets containing second encrypted
3 frames of each television program, the secondary packet identifiers associating the
4 second encrypted frames with a particular television program.

5
6 96. The method according to claim 91, further comprising:
7 assigning a plurality primary packet identifiers (PID) to data packets
8 containing unencrypted portions of each television program, the primary packet
9 identifiers associating the unencrypted portions with each particular television
10 program;

11 assigning the plurality of primary packet identifiers to data packets containing
12 first encrypted frames of each television program, the primary packet identifiers
13 associating the first encrypted frames with each particular television program; and

14 assigning a plurality of secondary packet identifiers to data packets
15 containing second encrypted frames of each television program, the secondary
16 packet identifiers associating the second encrypted samples with a particular
17 television program.

18
19 97. The method according to claim 96, further comprising transmitting system
20 information to identify the primary and secondary packet identifiers associated with
21 each television program.

22
23 98. The method according to claim 90, wherein the specified time interval is
24 selected at random.

25
26 99. An electronic storage medium storing instructions which, when executed on
27 a programmed processor, carry out the method according to claim 90.

28
29 100. An electronic transmission medium carrying an encrypted television signal
30 encrypted by the method according to claim 90.

1 101. A method of encrypting an unencrypted television program, comprising:
2 selecting a frame of the unencrypted television program at a specified time
3 interval; and
4 encrypting the frame according to a first encryption method to create a first
5 encrypted sample for the television program.

6
7 102. The method according to claim 101, further comprising, combining the first
8 encrypted frame with unencrypted portions of the television program to produce a
9 partially encrypted television program.

10
11 103. The method according to claim 102, further comprising distributing the
12 partially encrypted television program over a cable television system.

13
14 104. The method according to claim 102, further comprising assigning a packet
15 identifier (PID) to data packets containing unencrypted portions of the television
16 program, the packet identifier associating the unencrypted portion with a particular
17 television program.

18
19 105. The method according to claim 102, further comprising assigning a packet
20 identifier (PID) to data packets containing first encrypted frames of the television
21 program, the packet identifier associating the first encrypted frames with a particular
22 television program.

23
24 106. The method according to claim 102, further comprising assigning a secondary
25 packet identifier (PID) to data packets containing first encrypted frames of the
26 television program, the secondary packet identifier associating the first encrypted
27 samples with a particular television program.

1 107. The method according to claim 102, further comprising assigning a packet
2 identifier (PID) to data packets containing first encrypted frames and unencrypted
3 portions of the television program, the packet identifier associating the first
4 encrypted frames and the unencrypted portions with a particular television program.
5

6 108. The method according to claim 102, further comprising
7 assigning a primary packet identifier (PID) to data packets containing
8 unencrypted portions of the television program, the packet identifier associating the
9 unencrypted portions with a particular television program; and

10 assigning a secondary packet identifier (PID) to data packets containing
11 encrypted frames of the television program, the secondary packet identifier
12 associating the encrypted frames with the particular television program
13

14 109. An electronic storage medium storing instructions which, when executed on
15 a programmed processor, carry out the method according to claim 101.
16

17 110. An electronic transmission medium carrying an encrypted television program
18 encrypted by the method according to claim 101.